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**Before**

**UTTARANCHAL ELECTRICITY REGULATORY COMMISSION**

**In the matter of:**

Petition no. 05/2005 filed by M/s Regency Aqua electro and Motel resorts Ltd. a company having its registered office at Regency Complex, River View Lane, Paonta Sahib - 173 025 Himachal Pradesh.

.....Petitioner

**And**

**In the matter of:**

Determination of Tariff u/s 62 (1) (a) of Electricity Act, 2003 for Power sold by the Petitioner from its small hydro generating station Hanumanganga located at Uttarkashi district of Uttaranchal.

**Coram**

**Sri Divakar Dev      Chairman**

**Date of Order 23<sup>rd</sup> December 2005**

**ORDER**

This Petition has been filed by M/s Regency Aqua electro and Motel resorts Ltd. (hereinafter referred to as the “Petitioner”) for determination of tariff for sale of electricity to Uttaranchal Power Corporation Ltd. (UPCL) from Phase I of its Hanumanganga small hydro electric project under section 62(1)(a) of the Electricity Act, 2003.

## 1. Procedural History

- (2) The Petitioner Company was incorporated on 24.11.1994. The Petitioner is operating a Small Hydropower Generating Station on River Hanuman Ganga Nallah, Near Nishni and Hanuman Chatti Villages, District Uttarkashi, Uttaranchal, with installed capacity of 3 MW in Phase-I under the name Hanuman Ganga Small Hydro Electric Project. An additional capacity of 1.95 MW- Phase II is scheduled to come up in the Second phase. Phase-I of the said generating station was commissioned on April 4, 2005 and is supplying electricity to Uttaranchal Power Corporation Ltd. (UPCL).
- (3) Section 62 (1)(a) of the Electricity Act, 2003 (Act) requires this Commission to determine the tariffs for sale of electricity by a generating company in Uttaranchal to a distribution licensee. The Commission notified the Uttaranchal Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2004 (Regulations) on May 14, 2004 u/s 181 of the Act. These Regulations were applicable to all Large Hydro Power Generating (LHP) stations with an installed capacity above 25 MW located in Uttaranchal. On 03.01.2005, the Commission further notified that pending framing of separate Regulations for Small Hydro Power Generating (SHP) stations with installed capacity upto 25 MW, tariffs for such stations would be determined in accordance with the Regulations already notified with such relaxations which, in Commission's view, may be necessary.
- (4) The Petitioner filed the Petition on 21.06.2005 and it was admitted for hearing on 29.06.2005. As per Commission's directions, the Petitioner published a summary of its proposals as given in the table below:

**Table 1 : Public Notice by Regency Aqua electro & Motel Resorts Ltd.**

<b>Date</b>	<b>Name of News Paper</b>
02.07.2005	Amar Ujala
03.07.2005	Dainik Jagran

- (5) No objection to the proposals made in this Petition was filed during the period specified for this purpose. Later, during the course of personal hearing sought by the Petitioner, a written submission was made on behalf of UPCL on 15th September 2005. Issues raised therein have been taken note of and suitably dealt with later in this Order.
- (6) For convenience, this order has been divided into following portions:
- i) Petitioner's submissions
  - ii) Response from UPCL
  - iii) Commission's Scrutiny & Analysis
  - iv) Tariff for 2005-06

## **2. Petitioner's Submissions**

### **2.1 General Submissions**

- (7) After tracing out history of the project, the Petitioner has stated that as per the PPA signed between UPCL and the Petitioner, which was approved by Government of Uttaranchal (GoU), the tariff for the Petitioner is fixed at Rs. 2.50 per unit. However, requisite regulatory approval as per the prevalent laws was not taken on the above PPA and to that extent the same suffers from serious legal infirmity. The Petitioner rightly acknowledging this infirmity has approached the Commission to determine the tariff under the Electricity Act, 2003.
- (8) The Petitioner has requested that the Commission may approve the tariff for a period of two years only as it plans to switch over to captive consumption within two years as it is desirous to promote and set up an Industrial Unit within 24 months as per the State Government policy of Uttaranchal.
- (9) The project after erection was held up for last 18 months due to lack of grid

connectivity which was to be made available by UPCL. A separate order may be passed to compensate the loss suffered by the Petitioner through additional tariff in next two years to be paid to it by UPCL. The Petitioner lost almost Rs. 720 lacs due to loss of generation and had to absorb extra interest burden of Indian Renewable Energy Development Agency (IREDA)/ Central Bank of India (CBI) for a period of 18 months.

- (10) The difference in the tariffs as would be fixed by Commission and Rs. 2.50 per unit as approved by the GoU, may be paid to the Petitioner by UPCL on behalf of the GoU in case the generation tariff approved by the Commission is less than Rs. 2.50 per unit, and necessary orders to that effect may be passed by the Commission.

## **2.2 Specific Proposals**

- (11) In addition to above general submissions, specific propositions made in the Petition are as given hereafter:

### **2.2.1 Design Energy and the Projected Generation**

- (12) The Petitioner has claimed that 90% dependable year required for determining the Design energy is difficult to compute as discharge data available is for a shorter period and not very accurate. Having said so, it has claimed in the petition that the design energy of the plant is 20.66 MU which has been computed on 75% dependability discharge but with only 80% plant load factor. The reasons for lower machine availability standard proposed are possibility of machinery break down, trash/silting causing water flow stoppage, flash floods causing possibility of land slides, etc. Against all this, the actual energy generated and sold so far and as projected for the Tariff year are given in Table below:

**Table 2: Energy Generated (MU) during 2005-06**

Sl. No.	Month	Design Energy	As given in original petition			As revised subsequently		
			Actual	Estimated	Total	Actual	Estimated	Total
1	April	1.728	1.755	--	1.755	1.720	--	1.720
2	May	1.785	2.060	--	2.060	2.060	--	2.060
3	June	1.728	--	1.728	1.728	1.813	--	1.813
4	July	1.786	--	1.786	1.786	0.251	--	0.251
5	August	1.786	--	1.786	1.786	--	--	--
6	September	1.728	--	1.728	1.728	--	--	--
7	October	1.786	--	1.786	1.786	--	--	--
8	November	1.786	--	1.786	1.786	0.698	--	0.698
9	December	1.780	--	1.780	1.780	--	0.744	0.744
10	January	1.476	--	1.476	1.476	--	0.744	0.744
11	February	1.568	--	1.568	1.568	--	0.806	0.806
12	March	1.728	--	1.728	1.728	--	1.116	1.116
	<b>Total</b>	<b>20.66</b>	<b>3.815</b>	<b>17.152</b>	<b>20.967</b>	<b>6.543</b>	<b>3.410</b>	<b>9.953</b>

- (13) From the Design Energy of 20.967 MUs, the Petitioner has deducted 0.5% each towards auxiliary consumption and transformation losses to arrive at a saleable energy of 20.46 MU. However, in the supplementary filing made on 07.12.2005, the Petitioner has revised the projected generation to only 9.953 MU.

### **2.2.2 Capital Cost**

- (14) Originally estimated project cost was Rs. 1724.70 lacs. However, an additional component of steel surge tank was added and the civil cost was revised by IREDA from Rs. 928.68 lacs to Rs. 991.84 lacs. Thus, the total project cost was fixed at Rs. 1784.23 lacs which included the Interest During Construction (IDC) component as Rs. 225 lacs. However, the actual IDC paid to IREDA/Bank/Financial Institutions till 31<sup>st</sup> March 2005 has been stated to be Rs. 468.27 lacs. After some reduction in miscellaneous fixed assets/transmission line etc. the cost incurred on the project till 31<sup>st</sup> March 2005 is Rs. 1993.50 lacs. The IDC swelled up alarmingly in the later 18 months from November 2003 to

April 2005 as the project inspite of having been completed was not commissioned due to lack of grid connectivity/33 kV transmission line connection as works of UPCL for the transmission line and substation were delayed due to their technical reasons.

- (15) Further, the Petitioner has submitted that it has not received any capital subsidy from IREDA or any other agency for the project nor has any infirm power been generated and sold. Although, IREDA has sanctioned interest subsidy, the IDC has been paid to the financial institutions before this interest subsidy came to the Petitioner.
- (16) The Capital cost of the project as claimed by the Petitioner is given hereunder:

**Table 3 : Statement of Capital Expenditure on COD (Rs. in Crore)**

Particulars	Amount
<b>A) Expenditure Details</b>	
a) Land	0.29
b) Building	1.02
c) Major Civil Works	13.03
d) Plant & Machinery	4.71
e) Vehicles	0.08
f) Furniture and Fixtures	0.15
g) Office Equipment & Others / T. Line	0.66
<b>Total (A)</b>	<b>19.94</b>
<b>B) Break up of sources of financing</b>	
<b>Loans from:</b>	
IREDA	10.80
CBI	3.21
<b>Equity</b>	5.93
<b>Total (B)</b>	<b>19.94</b>

### 2.3 Interest on loans

- (17) The details of loans outstanding and interest thereon for the year 2005-06, as submitted by the Petitioner are given in the Table below:

**Table 4 : Statement of Outstanding Loans and Interest thereon (Rs. in Crore) (Year 2005-06)**

<b>Loan Agency (Source of loan)</b>	<b>Rate of interest (%)</b>	<b>Repayment period (Years)</b>	<b>Balance at the beginning of the year</b>	<b>Amount received during the year</b>	<b>Principal due during the year</b>	<b>Principal redeemed during the year</b>	<b>Principal Due at the year end</b>	<b>Interest &amp; Financing expenses due during the year</b>
IREDA	13.0%	4 Years 3 Months	10.80	---	2.54	---	8.26	1.24
CBOI	12.0%	7 Years	3.21	---	0.47	---	2.74	0.36
<b>Total</b>			<b>14.01</b>	---	<b>3.01</b>	---	<b>11.00</b>	<b>1.60</b>

## **2.4 Return on Equity**

- (18) The Petitioner has claimed equity investment of Rs. 5.93 crore which includes unsecured loans of Rs. 2.10 crore and has claimed a return @ 14% per annum on the same. The amount so claimed by the Petitioner works out to Rs. 1.13 crore (incl. I.T. provision @7.5% MAT).

## **2.5 Depreciation**

- (19) Depreciation had been claimed as per the standard written down value method of the Income Tax Act and had been shown as Rs. 0.72 crore for 2005-06. The Commission required the Petitioner to calculate depreciation in accordance with the Regulations, whereupon the depreciation claim for 2005-06 was reduced to Rs. 0.46 crore.

## **2.6 Advance against Depreciation (AAD)**

- (20) The Petitioner has requested that AAD may be allowed as per the repayment schedules approved by the financial institutions and for that the limit of 10% of the loan amount be relaxed. The Petitioner has claimed Rs. 3.01 crore towards AAD for FY 2005-06.

## **2.7 Operation and Maintenance (O&M) expenses**

- (21) The Petitioner has claimed Rs. 1.52 crore towards O&M expenses for the tariff

year 2005-2006. The component-wise break up of the O&M expenses claimed by the Petitioner are given in Table below.

**Table 5 : Details of O&M Expenses claimed in the Petition (Rs. in Crore)**

<b>S. No.</b>	<b>Particulars</b>	<b>Tariff Year</b>
a)	Consumption of Stores and Spares	0.1596
b)	Repair and Maintenance	0.2928
c)	Administrative Expenses	0.4600
d)	Employee Cost	0.6120
e)	Corporate Office expenses Allocated	Nil
	<b>Total O&amp;M Expense</b>	<b>1.5244</b>

(22) The Petitioner has submitted that its requirement of O&M expenses are much higher than the projected requirement of 3% of the project cost in the DPR and the reasons for the same are claimed to be:

- i) At the time of DPR preparation, the projected O&M costs were taken from other running hydro power projects which were either of much higher capacities or were operating on canal drop schemes.
- ii) The actual experience of last three years at project sites during implementation indicates much higher expense as:
  - The maintenance cost of civil structures at diversion, water conductor systems is much higher at high altitude areas having fragile mountains.
  - Higher wages/incentives are required to be paid to keep the staff at remote areas.
  - The wages have increased more than anticipated in last 3-4 years.
  - Travel costs have increased due to increase in fuel costs.
  - Insurance companies do not pay more than 80% of the replacement costs.
  - Due to snow in the winter months heating arrangements and incentives are given to the staff to live at project site.

- Constant soil conservation works are required in the project area as well as upstream for stabilization.
  - Forestation works.
  - The costs of the spare part replacements are much higher than anticipated. Machinery cost has increased by more than 35% due to 50% increase in cost of steel in last 3 years.
- (23) Repairs and Maintenance expenses have been taken on an estimated basis as historical data in respect of the Petitioner's project was not available, being a new project. It is observed that at projects located at a height of above 7000 feet in fragile mountains with heavy rainfall, there are periodic maintenance costs of civil structures, landslide clearances, soil erosions, etc. which increase the maintenance cost.
- (24) Actual consumption of spares for two months has been taken and for the balance period, figures are on an estimated basis.

## 2.8 Interest on Working Capital

- (25) The Petitioner has claimed Rs. 0.11 crore towards interest on working capital @ 12% per annum. Details of interest on working capital claimed by the Petitioner are given in the Table below:

**Table 6 : Calculation of Interest on Working Capital (Rs. in Crore)**

S. No.	Particulars	2005 - 06
1	O & M expenses - 1 month	0.12
2	Spares	0.05
3	Receivables- 2 months	1.00
4	<b>Total Working Capital (1+2+3)</b>	1.17
5	Working Capital Loan Required	0.88
6	Normative Interest Rate (%)	12%
7	Interest on Working Capital (5 X 6)	0.11

## 2.9 Total Charges recoverable

- (26) Based on the above claims, the Petitioner has claimed Rs. 7.83 crore as the Total recoverable charges for the tariff year 2005-06 which is summarised in the Table below.

**Table 7 : Calculation of Net Recoverable Charges (Rs. in Crore)**

S. No.	Particulars	Tariff Year 2005 - 06
1	Interest on Loan	1.60
2	Depreciation*	0.46
3	Advance Against Depreciation	3.01
4	Return on Equity incl. I. Tax provision @ 7.5% MAT	1.13
5	O & M Expenses	1.52
6	Interest on Working Capital	0.11
7	Gross Annual Fixed Charges	7.83
8	Less: Other Income	-
9	Net Annual Fixed Charges	7.83

\*Depreciation has been revised by the Petitioner and hence, the net annual fixed charges also got reduced.

## 2.10 Tariff

- (27) Based on the above claimed expenses, the Petitioner has calculated the per unit rate by dividing the Annual Fixed Charges by the total energy proposed to be sold to UPCL. The rate calculated by the Petitioner is given in the Table below:

**Table 8 : Calculation of Per Unit Rate**

S.No.	Particular	Unit	Tariff Year
1	Net Annual Fixed Charges	(Rs. Crore)	7.83
2	Energy Generated	(MU)	20.758
3	Per unit Rate of Saleable Energy (1/2)	(Rs./unit)	*3.77
4	Design Energy (net of aux. cons., trans. loss & home State share)	(MU)	20.460
5	Per unit Rate of Design Energy (net of aux. cons., trans. loss & home State share)	(Rs./unit)	**3.827

\*Revised from original claims of 3.90 p/u respectively due to reduced claim in depreciation.

\*\*Revised from original claims of 3.95 p/u respectively due to reduced claim in depreciation.

### **3. Response from UPCL**

(28) Objections raised by UPCL are enumerated and dealt with hereafter:

#### **3.1 Applicability of two-part tariff**

(29) The Commission has notified its Terms and Conditions for determination of Hydro Generation Tariff Regulations, 2004 for hydro stations having capacity up to 25 MW with such relaxations and variations which may be necessary and the same should be adhered to.

#### **3.2 Tariff Period**

(30) The Petitioner has requested that tariff may be determined for a period of two years only. The Electricity Act, 2003 requires annual determination of tariff and hence tariff for only one year may be fixed.

#### **3.3 Compensation of loss of generation and IDC for lack of grid connectivity**

(31) It has been claimed in the Petition that on account of non availability of UPCL's grid, heavy amounts accrued by way of interest during construction (IDC). This has been disputed by UPCL, who have contended that no increase in IDC is called for.

#### **3.4 Advance against Depreciation (AAD)**

(32) As per the Regulations, loan repayment or 10% of the loan, whichever is lower can be allowed as Advance against Depreciation (AAD). Since the Petitioner has claimed a higher amount under this head, the same should not be allowed over and above the amount allowable as per the norms prescribed in the Regulations.

(33) In the end, UPCL has submitted that the Commission may verify the expenditure claimed by the Petitioner in the petition and allow the expenditures as per the provision of the law and Regulations only.

#### **4. Commission's Scrutiny and Analysis**

- (34) Terms and Conditions for tariff determination of large hydro projects were notified by the Commission on 14.05.2004 under section 181 of the Electricity Act, 2003. Issue of similar Regulations for small hydro projects would have been helpful in ensuring complete transparency in any exercise for determination of tariffs of such projects. Commission's initiative in this direction could not be taken to its logical conclusion on account of inadequate data. Water discharge data on most of the water streams that such projects are located on is either not available at all or if available, it is for periods which are too short for drawing any meaningful conclusions for estimating the likely availability of water for such plants. Similarly, such plants being comparatively new and few in numbers, reliable operational data is also not available. These facts were strongly agitated before the Commission when draft Regulations for such plants were notified for responses. Recognizing the force of some of these contentions, the Commission deferred issue of separate Regulations for small hydro generating stations. Instead, the Commission extended the Regulations notified for larger hydro generating stations to small hydro stations with the stipulation that suitable relaxations in these could be made, if required. A notification to this effect was issued on 03.01.2005.
- (35) The Commission subsequently issued an Order "Approach to Initial Tariff for New Hydro Generating Stations with capacity above 1 MW and upto 25 MW" on 10.11.2005 outlining its approach in such matters. In light of the above Order, the Commission gave the Petitioner an opportunity to exercise the option to get its tariff determined through the approach given in the Commission's order dated 10.11.2005 or strictly as per the Regulations. In its submission made on 07.12.2005 before the Commission, the Petitioner desired to have its tariff fixed in accordance with the Regulations but with suitable

relaxations. Subsequently, in its submission made on 19.12.2005, the Petitioner withdrew its earlier option and opted for the approach defined in the Commission's Order dated 10.11.2005. The petition is, therefore, being processed accordingly and individual cost elements given in the petition are dealt with hereafter.

#### 4.1 Capital Cost

- (36) It has been submitted in the Petition that the project's Capital cost as per the DPR finally approved by IREDA on 24.11.2004 is as given below:

**Table 9 : Capital Cost**

<b>S. No.</b>	<b>Particulars</b>	<b>Amount (Rs. In Lakhs)</b>
1	Land	20.00
2	Civil Works	991.84
3	Electro-mechanical equipment	357.39
4	Installation	25.00
5	Engineering & Consultancy	10.00
6	Technical Assistance	0.00
7	Project Management	15.00
8	Others	69.00
9	Taxes & duties	36.00
10	Contingency	35.00
11	IDC	225.00
	<b>Total</b>	<b>1784.23</b>

- (37) As per the Petitioner's loan agreements signed with IREDA and CBI, of this Capital Cost, the loan component was recognized as Rs. 14.01 Crore and the balance Rs. 3.83 Crore was to be met from equity.
- (38) Against this, the capital cost claimed in the Petition is Rs. 19.94 crore. It has been claimed that the IDC swelled up alarmingly in the period from November 2003 to April 2005 as the project inspite of having been completed was not commissioned due to lack of grid connectivity/33 kV transmission line connection as works of UPCL for the transmission line and substation were delayed.

(39) Whether this increase in cost took place on account of any negligence or lapse of UPCL or of the Petitioner or both is not an issue to be addressed and decided in these proceedings. This is a matter that should be settled between the two parties mutually or through the dispute resolution machinery in terms of their bilateral agreement and this additional cost should be borne by the party/parties responsible for this delay. There is no reason for passing the burden of this lapse to consumers by recognizing higher than the approved expenditure under this head. The relief for such situations lies not in inflating the capital cost but has to be obtained in terms of mutual understanding and agreement between the concerned parties. The Commission is, therefore, unable to accept additional capital expenditure claimed on account of increased IDC due to delay in project implementation. Since the capital cost of Rs. 17.84 Crore stipulated in the DPR has been appraised and accepted by leading financial institutions, the Commission is also accepting the same. Further, interest payable for loans concerning this project is being subsidized by MNES. Accordingly, the rate for IDC component as per the DPR is being suitably corrected. Accordingly, the capital cost of the project to be considered in this exercise works out to Rs. 16.65 crore and not Rs. 19.94 Crore claimed in the Petition as shown below.

**Table 10: Capital Cost (Rs. lakhs)**

<b>Sr. No.</b>	<b>Particulars</b>	<b>Approved by IREDA</b>	<b>Actual</b>	<b>Considered</b>
1	Expenditure	1559.23	1526.00	1526.00
2	IDC	225.00	468.00	139.00
	<b>Total</b>	<b>1784.23</b>	<b>1994.00</b>	<b>1665.00</b>

(40) The capital cost of Rs. 16.65 crore translates to Rs. 5.55 crore/MW. However, the Commission's order dated 10.11.2005 has stipulated ceiling of Rs. 5.50 crore/MW on the capital cost. Hence, for tariff purposes the Petitioner's capital

cost is being restricted to Rs. 5.5 crore/MW or Rs. 16.50 crore for 3 MW capacity of Phase I.

#### **4.2 Return on Equity**

- (41) As stated above, as per the revised DPR approved by IREDA, the revised cost of the project was fixed at Rs. 17.84 crore. Of this, a sum of Rs 14.01 crore was to come out of loans sanctioned for the project and the Petitioner was required to invest Rs. 3.83 Crore by way of equity. The equity actually invested in the project has been claimed by the Petitioner to be Rs. 5.93 crore. As stated in the preceding paragraph, the admissible Capital cost of the project is only Rs. 16.50 crore, and to finance this, a sum of Rs. 14.01 crore has come by way of loan from Financial Institutions. Only the balance amount could have been invested in the Capital assets by the Petitioner, and the same works out to Rs. 2.49. Return is admissible only on that portion of the company's equity which is invested in the Capital assets and that too as per the approved financing plan. Hence, for computing return the equity amount to be considered is only Rs. 2.49 crore and not Rs 5.93 crore claimed in the Petition. The admissible return on this equity works out to Rs. 0.35 crore (excluding tax) against Rs. 1.13 crore (including tax) claimed in the Petition.
- (42) Taxes are allowed to be passed through in the Tariff and recovered separately from the beneficiaries as per the Regulations.

#### **4.3 Interest on loans**

- (43) The Petitioner has claimed that the project has been financed through two loans, one of Rs. 10.80 crore which carries an interest @ 13% from IREDA and the other of Rs. 3.21 crore carrying an interest @ 12% from the CBI. Interest subsidy is available on these loans from MNES as per their letter dated 30.08.2004 filed by the Petitioner. Therefore, for computing Petitioner's expenditure under this

head, this subsidy has been factored in and interest has been calculated at the subsidized rate of 8% p.a. as given in the DPR. The outstanding amount of this loan as on 01.04.2005 was Rs. 14.01 Crore and after taking into account the repayments to be made during the year, the interest payable on this loan has been worked out and the same comes to Rs. 1.00 crore only against Rs. 1.60 crore claimed by the Petitioner.

#### **4.4 Depreciation including Advance Against Depreciation (AAD)**

- (44) Commission's Regulations lay down the method of calculating depreciation and also show the useful life of different assets to be taken into account for such calculations. Regulation 24 stipulates that to facilitate repayment of loans, higher depreciation can be allowed in the initial years by way of Advance against Depreciation (AAD), but the cap on total depreciation, including the AAD, is 10% of the loan amount. Against this, higher than admissible AAD of Rs. 3.01 crore, equivalent to loan repayment of Rs. 3.01 crore, has been claimed in the Petition on account of unusually short loan repayment schedule. In addition, a depreciation of Rs. 0.46 crore has been claimed. This has resulted in inflating the AFC and in turn the tariff during this period. Term loans for such investments are generally available on easier terms and the Petitioner should have negotiated better terms or should do so now or even look at the option of swapping the existing loans. The Commission is unable to allow depreciation including AAD at rates higher than 10% stipulated in the Regulations as well as in its order dated 10.11.2005. Accordingly, the depreciation to be taken into account for the year 2005-06 is Rs. 0.38 Crore and in addition AAD of Rs. 1.02 Crore is being allowed making a total admissible expenditure under this head to be Rs. 1.40 Crore.

#### **4.5 Operational Expenses**

- (45) Expenditure on employees, administration and repairs and maintenance are

clubbed together and termed as Operation & Maintenance (O&M) Expenses. For an ongoing large project, Commission's Regulations provide that these costs will be allowed on the basis of actual expenditure in the preceding five years with provision for annual escalation. For a new project, like the present one, since past data is not available, the Regulations envisage that for the first five years this expenditure will be computed as 1.5% of the capital cost and then escalated at the rate of 4% per annum. However, as per Commission's order dated 10.11.2005, this limit can be relaxed upto a ceiling of 4%, inclusive of insurance expenses of 1%. Against these, the Petitioner has claimed a total of Rs. 1.52 Crore as O&M expenses, comprising of Rs. 61 lakhs as employee cost, Rs. 46 lakhs as administrative expenses, Rs. 29 lakhs as R&M expenses, and Rs. 16 lakhs towards consumption of stores and spares. The expenditure claimed by the Petitioner works out to about 9.21% of the capital cost. The Petitioner has claimed such high O&M expenditure based on its own assessment of the project's requirements and the same is devoid of any independent validation.

- (46) Further, the DPR of the project as approved by the financial institutions stipulates this expenditure as 3% of the capital cost with no additional provision for insurance costs. Against this, the expenditure claimed in the petition works out to about 9.21%. The project's DPR stipulated O&M expenditure of only 3% of the capital cost and this value was validated by the financial institutions also. The Petitioner has failed to provide adequate justification for claiming substantially higher expenditure than that indicated in the DPR. Therefore, while the Commission is relaxing the normative ceiling of 1.5% given in the Regulations but is doing so only to the extent stipulated in the approved DPR, which is 3% of the capital cost. In addition, the Commission is allowing actual insurance charges subject to a ceiling of 1% of the Capital Cost. Accordingly, the O&M expenses of this station, including insurance expenses, work out to Rs. 0.67 Crore and not Rs. 1.52 crore claimed by the Petitioner.

#### 4.6 Interest on Working Capital

(47) Values of Capital costs and O&M expenditure having been determined, the cost of working capital required during the initial period gets derived from the same as per the Regulations. The interest on working capital so estimated for the year 2005-06 comes to Rs. 0.08 Crore.

#### 4.7 AFC for 2005-06

(48) Based on what has been stated above, the admissible AFC for the Petitioner's generating station for the year 2005-06 works out to Rs. 3.50 Crore as shown below:

**Table 11 : Annual Fixed Charges (Rs. in Crore)**

<b>S. No.</b>	<b>Particulars</b>	<b>Proposed</b>	<b>Approved</b>
1	Interest on Loan	1.60	1.00
2	Depreciation	0.46	0.38
3	Advance Against Depreciation	3.01	1.02
4	Return on Equity	1.13	0.35
5	O & M Expenses	1.52	0.67
6	Interest on Working Capital	0.11	0.08
7	<b>Gross Annual Fixed Charges</b>	<b>7.83</b>	<b>3.50</b>
8	Less: Other Income	-	-
9	<b>Net Annual Fixed Charges</b>	<b>7.83</b>	<b>3.50</b>

#### 5. Tariff for 2005-06

(49) The AFC of the Petitioner, which includes a handsome return on investments, is normally recovered through sale of electricity generated in the plant. For this purpose, view has to be taken on the likely generation and sale of electricity so that the AFC can be distributed over the same. For reasons of inadequate data on water discharge and difficulties in computing the correct design energy and the capacity index, the Petitioner's request for single part tariff is accepted in relaxation of the Commission's Regulations. For working out the single part tariff, the AFC determined above is to be simply divided by the quantity of

electricity likely to be available for sale, which is subject to fluctuations with varying water availability.

- (50) In a two part tariff, any shortfall in generation occurring due to reduced availability of water gets compensated through capacity charges. However, this comfort is not available in single part tariff and, therefore, there is a need for utmost caution in estimating the likely generation during the tariff year. Normally, the actual generation of previous years could give a fair indication of what can be expected during the tariff year. However, in the Petitioner's case, this is the first year of operation, hence, the options that are available are either to consider the generation projected in the DPR or that projected in the Petition. The DPR gives the yearly generation of 20.66 MUs at a PLF of about 80%. For 2005-06, the Petitioner has projected marginally higher generation of 20.967 MU which has been later revised. To mitigate the risks of any fall in generation for reasons beyond the Petitioner's control and in view of option exercised by the Petitioner, the Commission is permitting full recovery of the Petitioner's cost from the saleable energy equal to of 45% PLF as per the approach defined in Commission's recent order issued on 10.11.2005. Saleable energy so determined works out to only 11.83 MUs, and full recovery of the Petitioner's AFC is being allowed through this reduced quantity. Further, Petitioner's full cost having already been recovered, as envisaged in the above order, for any generation higher than this quantity only incentive will be payable. For the first year after commissioning the rate of this incentive is 26 paise per unit.
- (51) The Petitioner has sought tariffs to be determined for two years. In view of inadequacy and unreliability of data for such plants, it does not seem advisable to fix tariff for long periods. The Commission is, therefore, determining tariff for the Petitioner's plant only for 2005-06. As reliable data on generation and expenditure gets generated, determination of tariff for longer durations may be

considered. Accordingly, the tariff for saleable electricity from Phase I in Hanumanganga Small Hydro Power Plant of the Petitioner for 2005-06 has been calculated and same is given below:

**Table 12 : Tariffs for 2005-06**

Annual Fixed Charges (Rs. in crore)	3.50
Saleable Energy at a PLF of 45% (in MUs)	11.83
Tariff (Rs. per unit)	2.95

- (52) This tariff will be applicable only if the Petitioner commits to and sells power to UPCL for at least 20 years, which is twice the normative loan period. This is necessitated by the fact that due to higher than permissible expenses the tariffs have been front loaded in the initial years. It shall not be fair if consumers are denied the benefit of lower cost of generation in later years, when they have paid for increased cost in initial years.
- (53) Should the Petitioner not be willing to commit and sell power to UPCL for the next 20 years it would be unreasonable to expect UPCL to pay tariff which has been front loaded for reasons discussed earlier in the order. In such a case, the above tariffs shall not be applicable and the Petitioner shall come back to the Commission for determination of tariff duly levelised.
- (54) The petition no. 05/2005 is disposed off accordingly.

Sd/-  
**(Divakar Dev)**  
**Chairman**